

Chapter 1

Transportation Strategy and Goals

Transportation is one of the most important services provided by government, particularly in a fast-growing community. Transportation serves the crucial role of linking people to their jobs, schools, children's ballgames, and other community activities. Residents want an efficient and affordable transportation system, one that offers travel choices on pleasant routes and one that will not cause harm to the community and natural environment. As the County's population has grown at its unprecedented rate over the past decade, residents, employees, and visitors are increasingly feeling the strain on the County's transportation system.

This *Revised Countywide Transportation Plan* (Revised CTP) describes how the County intends to serve the mobility needs of the growing populace for the next 20 years. It establishes a long-range vision while at the same time it lays out more immediate policies and implementation measures in order to achieve coordinated transportation planning and service delivery.

Underlying these strategic objectives are a number of issues arising from a legislative environment in which the County finds itself grappling with new rules, conditions and pressures, both locally and regionally. The Washington Metropolitan Area's designation as a serious non-attainment area for ozone pollution under the Clean Air Act makes it imperative that local jurisdictions jointly plan an environmentally-sound transportation system. Should the region not stay within its allowable emissions budgets and reduce ozone pollution levels, the region could lose federal funding for roads.

With the introduction of the Clean Air Act Amendments (CAAA) in 1990 and the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, as well as the Transportation Equity Act for the 21st Century (TEA-21) that became law in June 1998, the federal government increased the role and authority of regional planning agencies. These acts also tie federal road-improvement funds to environmental and land use planning objectives and heighten the need for transit alternatives in local transportation planning. These changes in federal legislation and the regional transportation planning environment make it imperative that the County develop a strategy that takes a comprehensive look at transportation in relation to the County's other planning efforts and strengthen the County's regional negotiating position. Multi-modal transportation planning is another important part of this strategy.

Transportation Strategy

The *Revised Countywide Transportation Plan* includes the following basic strategy:

- The outlined transportation system will support the land use policies of the *Revised General Plan* and aid the County in attaining its economic development, environmental protection, and historic preservation goals over the 20-year plan period. The County recognizes that population and employment growth, coupled with a low density land development pattern located on the fringes of the Washington D.C. Metropolitan Area, have imposed significant challenges for planning an effective transportation system over the long term.
- The primary objective of this transportation strategy is not to merely move motor vehicles, but to provide for the efficient movement of people and goods through a variety of travel mode choices that are safe, convenient, and affordable. The transportation system should contribute to the creation of pedestrian-friendly communities and help achieve a high-quality environment while at the same time

meet the mobility and economic development needs of the County. An auto-dominated transportation infrastructure should not dominate citizens' lives or the landscape.

- The County realizes that increasing road capacity alone will not fully address the transportation needs of the growing community. Additional capacity is being built into the road network of eastern Loudoun County to serve these needs; however, just as County schools and services are under strain from new growth, the capacity of major roads in Loudoun County has been exceeded. Typically, new additions to road capacity simply result in more motor vehicle traffic through the process of "induced travel demand".¹ Therefore, the *Revised Countywide Transportation Plan* presents an increased emphasis on building a multi-modal transportation system that will improve previously forecast deterioration in the level of service on the road system and increase residents' transit and non-motorized transportation options.
- Roads, airports, public transit services, trails, and sidewalks are all components of this planned multi-modal countywide transportation network. The system includes appropriately designated high-speed roads as well as network components where the comfort of the pedestrian is accorded a higher priority in facility design. Traffic calming measures will be combined with the urban design and land use policies of the *Revised General Plan* to enhance community quality of life. The multi-modal network will connect with the Washington D.C. Metropolitan Area and beyond.
- The County will continue the build-out of the road system to complete the basic network that will serve existing and planned land uses. At the same time, it will steadily increase the prioritization and allocation of resources to the development of public transportation services, especially rail in the southeastern end of the Dulles Greenway Corridor. Express buses, feeder buses, and a network of pedestrian sidewalks and bicycle facilities will serve this rail line and other areas of the County.
- The County will adopt a Countywide approach to traffic calming as an essential ingredient to enhancing the quality of life of its residents. Traffic calming designs will be based on community preferences and will be considered in the construction and improvement of neighborhood streets as well as collector and arterial roads. Traffic calming is particularly important to the towns and suburban communities that are experiencing first hand the impact of increasing travel. The County's intent is to preserve the rural character of the road system by limiting improvements to unpaved rural roads to those necessary for safety.
- The County controls little of the capital and operating investment allocated to road construction and provision of transit services. Maintenance and improvements of public roads are the responsibility of the Commonwealth through the Virginia Department of Transportation (VDOT). However, major road construction projects in the last decade have been undertaken by the private sector through developer proffers, special tax districts (Route 28), or as business ventures (Dulles Greenway). The County must compete with neighboring jurisdictions for federal and state transit funds. The County's primary role in this uncertain environment is to plan the transportation network and ensure that an acceptable relationship is maintained between the County's land development and the transportation system needed to support this development. The County must also coordinate and negotiate with the state and seek private sector investment in the transportation system.

Sources on induced travel demand include:

Fulton, Lewis, Daniel Mesler, Robert Noland, and John Thomas, *A Statistical Analysis of Induced Travel Effects in the U.S. Mid-Atlantic Region*, Transportation Research Board, 79th Annual Meeting, Paper No. 001289, January 2000.

Noland, Robert and William Cowart, *Analysis of Metropolitan Highway Capacity and the Growth in Vehicle Miles of Travel*, Transportation Research Board, 79th Annual Meeting, Paper No. 001288, January 2000.

Surface Transportation Policy Project, *An Analysis of the Relationship Between Highway Expansion and Congestion in Metropolitan Areas*, November 1998.

- Implementation will be an on-going process requiring strong citizen participation and support, and constant monitoring and evaluation. It will require the collaboration and coordination of Loudoun's towns, federal, state and regional agencies, and the private sector.

Overarching Transportation Goals

1. The *Revised Countywide Transportation Plan* is a means of implementing the following objectives:
 - a. Develop and implement a strategy that will respect the valued rural, historic and environmental landscapes and other quality-of-life measures while providing affordable transportation choices for all county residents, including those persons with disabilities;
 - b. Demonstrate an integration of transportation policy with the land use policy of the *Revised General Plan*;
 - c. Maintain Loudoun County's fair share of federal and state funding.
2. Establish a safe, convenient, efficient, and environmentally sound, multi-modal transportation system to serve the needs of all members of the Loudoun community and to support the County's planned growth and revitalization in its regional context.
3. Ensure that land use and transportation decisions are linked so that planned land uses are supported by the appropriate types, levels and timing of transportation improvements, and so that they complement regional needs and initiatives.
4. Develop a transportation system that encourages the use of public transit and other transportation modes as effective alternatives to single-occupancy automobiles.
5. Achieve and sustain an adequate and fair level of state and federal funding to ensure that the transportation system is developed and maintained to serve the needs of the County.
6. Work with the state to update and adapt its roadway design standards to be consistent with the economic, social, environmental and other quality-of-life goals of the County as well as improve the safety and efficiency of the transportation system.
7. Reduce the impact of inter-county traffic on existing communities through the implementation of traffic calming or other measures.
8. Comply with state and federal legislation, such as the Clean Air Act and the Transportation Equity Act of the 21st Century (TEA-21), in order to take full advantage of the funding opportunities and to minimize potential disruptions in funding for the transportation system due to changes in standards and regulations.
9. Fully participate in regional and state transportation planning efforts to ensure Loudoun County's interests are addressed in regional and state plans.
10. Utilize the effectiveness of County finances to leverage other public and private funds for public road improvements.
11. Preserve the character of rural Loudoun and ensure that road capacity is not increased in the Rural Policy Area. Unpaved rural roads will be maintained in their current condition except for safety improvements.

12. Reduce vehicle emissions by:

- a. Reducing average per capita vehicle miles traveled by 20 percent (from 2001 levels);
- b. Reducing average vehicle speed/travel time (from 2001 levels); and
- c. Reducing average per capita number of vehicle trips (from 2001 levels).

13. The County will track the following system performance measures using available data as input into the assessment of how well the built system helps to meet the “Smart Growth” goals of the Comprehensive Plan. Performance measures may include:

- a. Trends in car ownership per capita
- b. Trends in the percentage of trips completed by mode (mode split)
- c. Trends in Vehicle Miles Traveled (VMT) (Countywide and per household average)
- d. VMT at Level of Service (LOS) “F” or “G” on county arterials
- e. Vehicle Hours of Travel (VHT/person)
- f. Accessibility by mode (number of residents within 30 or 45 minutes of x number jobs)
- g. Fatalities, injuries and property damage by mode per unit of travel (VMT/bus miles, etc.)

14. The County will work with VDOT and Federal Highway Administration (FHWA) to ensure that induced travel demand is a significant factor studied as part of regional road project assessments with the goal of preventing induced traffic as a result of regional road building and capacity expansions.

15. The County will encourage the utilization of private sector initiatives such as Public Private Partnership Agreements (PPTAs), Community Development Authorities (CDAs), special tax districts and other private ventures for the construction of transportation infrastructure.

16. Pursue the designation of the Beaverdam Historic Roadway District and designate Routes 50 and 626 as Virginia Byways and Loudoun County Historic Roadway Districts. Designate Edwards Ferry Road (Route 773), Harpers Ferry Road (Route 671), and Charles Town Pike (Route 9), as Virginia Byways.

Overview of the Integrated Land Use and Transportation Strategy

The transportation strategy is integrally linked to the land use strategy. The *Revised General Plan* presents land use policies for four geographic policy areas; namely, Rural, Transition and Suburban Policy Areas, and towns and their Joint Land Management Areas (JLMA). The policies in the *Revised Countywide Transportation Plan* are intended to support the County’s proposed land use to ensure that adequate transportation facilities exist to serve the mobility needs of residents and industry in each of the policy areas.

A. Suburban Policy Area

The County’s Smart Growth strategy is to encourage compact, pedestrian-friendly development in the east supported by well-functioning transportation systems. The County will focus transit investment in the Suburban Policy Area where the greatest residential and employment concentrations are located and where growth in travel is expected to strain the road network.

The overall policy direction for the Suburban Policy Area is to reduce overall gross densities for new residential development to two dwelling units per acre. Higher density, mixed-use development is encouraged in transit nodes along the Dulles Greenway and at the County’s designated urban centers. In

addition, future town centers in each of the four suburban communities will also include higher density development. Town centers will have a full range of housing types, and provide a diverse and stimulating environment. Densities and urban design characteristics will be supportive of transit service.

B. Rural Policy Area

The *Revised Countywide Transportation Plan* outlines a plan to preserve the rural character of the road system. Residential growth will not be encouraged in the Rural Policy Area by additional road capacity. Instead, emphasis will be on planned improvements that address safety problems. The County intends to work with VDOT in the design of roadway improvements to support the rural economy, including tourism, and to ensure that rural character features such as tree canopies, stone walls and fences, hedgerows, historic and agricultural structures, and viewsheds are protected. Traffic calming projects, such as for Route 50, should be implemented in other locations of the Rural Policy Area.

C. Transition Policy Area

The *Revised General Plan* creates a Transition Policy Area to provide a transition in land uses between the suburban and rural areas of the County. The *Revised Countywide Transportation Plan* calls for modifications to planned road improvements to reflect the varying densities by subareas in the transition area.

D. Towns and Joint Land Management Areas

Loudoun County boasts seven picturesque towns within its borders, ranging in population from only 96 people in Hillsboro to 28,311 in Leesburg. Towns are grappling with ways to maintain historic character and manage increasing traffic in their communities, especially pass-through traffic that is the outcome of increasing residential development in the Rural Policy Area. The towns are also exploring the development of improved pedestrian and bicycle networks in addition to traffic calming measures.

The County cooperates with the towns and adjoining counties as specific issues arise. The *Revised General Plan* policies specifically call for towns to work jointly with the County on land use and development in the Joint Land Management Area (JLMA) surrounding each town. The *Revised General Plan* also provides that the County staff could, at the direction of the Board of Supervisors, serve as liaison with the towns to provide assistance on planning matters. Leesburg and Purcellville have adopted Annexation Agreements with the County that provide for joint review of land use and planning issues. Specific policy direction for transportation facilities and services is established in the *Revised General Plan* as well as each of the town's area plans.

Bicycle and Pedestrian Mobility Master Plan

Executive Summary

Bicycling and walking are popular activities in Loudoun County both for transportation and recreation. Walking and bicycling are pleasant and enjoyable activities in neighborhoods that were built with sidewalks, street trees, and paved trails. The Washington and Old Dominion Trail (W&OD Trail) is a well used and cherished resource that traverses the County from east to west.

In many places, however, travel by foot and bicycle is difficult. Pedestrians face many physical barriers in the public right-of-way, including discontinuous sidewalks, dangerous road crossings, high speed traffic, and sidewalks that are blocked by poles, fire hydrants and other obstacles. There are no bike lanes in the County, and neighborhood bike paths are often narrow and winding and do not connect to destinations.



While growth of the road network has accompanied Loudoun's dramatic population growth in recent years, expansion of the bicycle and pedestrian network has not. Bicycling or walking is often not a safe or convenient option. This situation has the greatest impact on County residents who are unable to drive or cannot afford to own and operate an automobile.

Washington and Old Dominion Trail

In July 2001, the Loudoun County Board of Supervisors adopted the Revised General Plan and Revised Countywide Transportation Plan (CTP) providing a development framework based on smart growth principles. The Revised General Plan calls for completion of a Countywide Bicycle and Pedestrian Mobility Master Plan to help implement Loudoun's vision of a transportation system that:

- Recognizes the intrinsic value of bicycling and walking, and
- Advances bicycle and pedestrian mobility as a transportation goal.

This Bicycle and Pedestrian Mobility Master Plan (Plan) is the product of extensive analysis conducted by a Citizens' Advisory Committee, county staff and consultants, combined with information and ideas offered by residents of Loudoun County.

This Plan identifies many locations that are in need of improvements such as new sidewalks, bike lanes, pathways, and intersection crossing improvements. The Plan focuses primarily on the County's road network. Although the W&OD Trail offers an excellent "car-free" alternative, there are few remaining abandoned rail corridors that can be used to build off-road trails.

In addition to improving roadways and intersections for bicyclists and pedestrians, the Plan calls for the development of a variety of other programs that support and encourage more cycling and walking. More County residents will bicycle and walk for short trips if mixed-use development becomes more common, secure bike parking is provided at destinations, and bike safety and promotion programs are developed.

As new bike lanes and sidewalks are built throughout the County, school-based pedestrian safety and traffic law enforcement programs will also be needed to teach users how to share the road safely.

With an adopted bicycle and pedestrian plan, Loudoun County can ensure that bicycle and pedestrian accommodations will be more fully integrated into local, state and regional transportation improvements. State and federal transportation policy with regard to bicycle and pedestrian accommodations continues to evolve and improve, creating new priorities and opportunities for funding. A clear articulation of local bicycle and pedestrian needs is vital to ensure that our transportation investments will improve and expand opportunities for bicycling and walking in Loudoun County.

Why is Bicycle and Pedestrian Mobility Important to Loudoun County?

Bicycling and walking issues are important to Loudoun County residents for a variety of reasons:

Bicycling and walking are a necessary part of the transportation system in Loudoun County.

Already significant numbers of people are walking and bicycling in locations that are not safe. Improving intersections, completing sidewalks, and providing highway overpasses will reduce the potential for bicycle and pedestrian fatalities and injuries from crashes with motor vehicles.

Bicycling and walking can play a vital role in improving the health of Loudoun County residents.

Research conducted in 1999 by the Centers for Disease Control found that “obesity and overweight are linked to the nation’s number one killer – heart disease – as well as diabetes and other chronic conditions.” The report also states that one reason for Americans’ sedentary lifestyle is that “walking and cycling have been replaced by automobile travel for all but the shortest distances.”ⁱ



Purcellville

Increased levels of bicycling and walking will help to improve air and water quality in Loudoun County.

The Washington (DC) metropolitan region, of which Loudoun County is a part, is classified as a severe non-attainment area for ground level ozone by the U.S. Environmental Protection Agency. This means air quality in the County is below federal health-based standards for clean air. Motor vehicle pollution is a major contributor to ozone pollution.

Developing trails, bikeways and walkable communities makes good economic sense for Loudoun County.

Businesses tend to invest more in locations that have a high quality of life, and corporate employers have an easier time attracting employees to these locations. Loudoun County’s ability to retain its status as a first class employment location will depend on its perception as a high quality place to live.

Bicycling and walking can improve the overall quality-of-life of Loudoun County residents.

Providing a livable community is a necessary part of attracting and retaining businesses and residents and ensuring that Loudoun County remains competitive in the 21st century. Bicycling and walking are integral to the image of Loudoun County as a safe and welcoming community.

Summary of Vision and Goals

Loudoun County's vision for bicycling and walking provides the public, elected officials, county staff and others a clear picture of the future transportation network. The specific goals speak directly to the particular areas of emphasis that need action and provide a solid framework for the recommendations of this Plan.

Vision Statement

Loudoun County – a place where pedestrians and bicyclists of all abilities have a safe, secure, and convenient alternative transportation network of walkways and bikeways that enable everyone to move efficiently to and from such places as work, school, transit, shopping, libraries, parks and recreation.

To realize this vision the Committee established the following five goals:

Connectivity: *Develop a comprehensive walkway, bikeway and shared-use path network among residential neighborhoods, towns, workplaces, shopping centers, transit stations, historic districts, schools, libraries, recreation centers, parks, etc.*

Diverse Users: *Accommodate the widest possible range of use abilities.*

Education and Promotion: *Educate public officials, business and community leaders and the general public.*

Safety and Security: *Increase the levels of bicyclist and pedestrian safety and security.*

Funding for Construction and Maintenance: *Ensure adequate funding for construction and maintenance of the pedestrian and bicycle network and related facilities.*

Implementation Strategy

Successful implementation of this Plan will require effective partnerships among many agencies, jurisdictions, and community leaders. A sustained effort that identifies high priority actions for early attention and recognizes the long term nature of some improvements is needed. Some actions should be commenced in the near term to build upon the knowledge and resources gained during the development of this Plan. Other actions will naturally follow and will be determined, in a large part, by opportunities that emerge in the future.

High Priority Actions, Years 1-5

1. Establish and dedicate an ongoing source of local revenue to provide a funding base and source of matching funds for the bicycle and pedestrian program.
2. Incorporate policies set forward in this Plan into practice through revisions to the Facilities Standards Manual (FSM), revisions to zoning and subdivision ordinances, and modifications to standard procedures.
3. Ensure that every opportunity is used to improve bicycle and pedestrian conditions along the Major Roads and Connecting Corridors listed in this Plan.
4. Work with the Virginia Department of Transportation (VDOT) to ensure that they integrate these policies into their approach to roadway planning and design in Loudoun County. Work closely with VDOT on specific road projects to ensure bicycle and pedestrian facilities are fully incorporated into the design and construction, per the recommendations of this Plan.
5. Develop an interdisciplinary bicycle program and establish a full-time bicycle and pedestrian coordinator position.
6. Establish an ongoing citizens' bicycle and pedestrian advisory body, with responsibilities as identified herein.
7. Apply for enhancement funding to plan, design and construct a bridge over Route 7, as identified in this Plan.
8. Initiate feasibility studies for off-road corridors identified in this Plan, and proceed with development of those corridors deemed feasible.
9. Encourage the towns to adopt the Network Map, or suggest amendments for the Network within the towns.
10. Ensure that VDOT incorporate bicycle and pedestrian improvements in accordance with this Plan for all projects in Loudoun County.
11. Identify most needed areas for pedestrian and bicycle improvements for implementation as funds become available.

Priority Improvements: Quickest and Least Expensive

1. Request that the Dulles Rail Extension Trail be included in the planning, design and funding activities currently underway.
2. Request that the Route 28 project include appropriate bicycle and pedestrian accommodations through all interchanges.
3. Seek funding to implement one Neighborhood Connector project per year, and one major intersection improvements per year.
4. In partnership with tourism officials, conduct a field study of the two Rural Bicycle Touring Routes identified in this Plan, develop a designation plan and install signs on these routes.
5. Install bicycle storage lockers at all park-and-ride lots.
6. In partnership with the School Board, establish a pilot Safe Routes to School program in Loudoun County, per the recommendations of this Plan.
7. Participate in Walk a Child to School Day in October of each year, encourage more schools to take part in the event each year. Continue to assist/sponsor Bike to Work Day activities.
8. Encourage and support the towns' efforts to implement elements of the network identified in the Plan as well as town plans.



Hillsboro

Conclusion

The Loudoun County Bicycle and Pedestrian Mobility Master Plan sets forward a comprehensive strategy in order to achieve the goals established in the Revised General Plan and the Revised Countywide Transportation Plan. There is growing support for multi-modal transportation not only among residents of Loudoun County, but throughout the Washington, DC region.

¹ JAMA - Journal of the American Medical Association, October 1999.

¹ JAMA - Journal of the American Medical Association, October 1999.